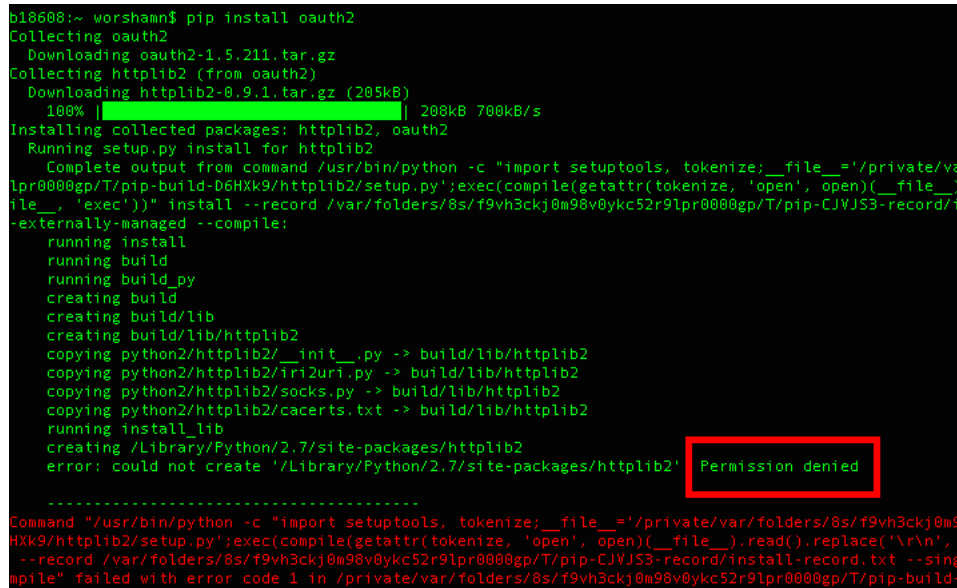# MSDS600 Week 2 Assignment - Nathan Worsham

Overall my experience in working to accomplish this assignment was relatively pain-free and brisk. I believe however this would not be the experience for all the students in the class which likely is affected by several factors:

- I have worked with python before.

- I have worked with APIs, developer accounts, and developer tokens before.

- I already have a Twitter account.

- I am running the latest OS X that already has pip installed and I have used pip before.

- I am already familiar with capturing output of a command or script.

As mentioned I was running my assignment on Mac OS X so it was not necessary to install pip. Next I went ahead and opened terminal and ran the command:

```
pip install oauth2
```

I received this error:

Seeing the error "Permission denied" coupled with the fact that the command it tried to run—setup tools— also "failed" tipped me off that I would need to run this command with root privileges. I have run into this before and really just forgot about it as I was trying to follow the instructions word-for-word. So next I ran the command correctly for my system:

```
sudo pip install oauth2
```

The command was successful installing the package this time but still did respond with one issue:

```
The directory '/Users/worshamn/Library/Caches/pip/http' or its parent directory is not owned by the current user
and the cache has been disabled. Please check the permissions and owner of that directory. If executing pip with
sudo, you may want sudo's -H flag.
The directory '/Users/worshamn/Library/Caches/pip' or its parent directory is not owned by the current user and c
aching wheels has been disabled. check the permissions and owner of that directory. If executing pip with sudo, y
ou may want sudo's -H flag.
```

Looking at the man page for sudo and seeing what the -H flag does, it appears to be about setting the HOME directory of the target user. I am not certain who the target user is in this instance but re-running the command gets the "Requirement already satisfied" message and since I received no further issues I believe the message can be disregarded.

I was already logged into Twitter so going to https://dev.twitter.com/apps I was able to immediately click on create app. At this point I was informed that I did not have a mobile phone number associated with my account and would be required to do so in order to continue. I went ahead and did as asked by adding my mobile number (which I imagine is data that Twitter is more than happy to collect, I have not read their terms of service, but it represents another NULL value conquered and more data ready to sell/exchange/barter to a waiting line of third parties).

Error
You must add your mobile phone to your Twitter profile before creating an application. Please read
https://support.twitter.com/articles/110250-adding-your-mobile-number-to-your-account-via-web for more information.

Now I was able to create the app and fill out the form. For the dummy website I used http://0.0.0.0–this is an address I am accustomed to using in test API accounts. As wikipedia (n.d.) puts it "the address 0.0.0.0 is a non-routable meta-address used to designate an invalid, unknown or non-applicable target".

Your application has been created. Please take a moment to review and adjust your application's settings.

Next I realized that the API key and token would need to be generated, so after generating these I was ready to copy and paste the values into the python script:

```python
import oauth2 as oauth
import urllib2 as urllib

# See assignment1.html instructions or README for how to get these credentials

api_key = "cOIsNJTF6rLCju3X4Dkokj2bw"
api_secret = "Mk4LEv97DQlGu42CkSQDqRw1A5Uj4Fl00ymPiMCHnhv3lxl3WD"
access_token_key = "73230945-noIcK64rkdT2AzgtrFAS91mLyWn8RhPElNCIVaorF"
access_token_secret = "9EQfEMYEOFttwD9zhLVtvmscRaLcuSJD2fmF5ibEzXQm"

_debug = 0

oauth_token    = oauth.Token(key=access_token_key, secret=access_token_secret)
oauth_consumer = oauth.Consumer(key=api_key, secret=api_secret)

signature_method_hmac_sha1 = oauth.SignatureMethod_HMAC_SHA1()
```

Finally I ran the command `python twitterstream.py > output.txt` for a few seconds and then checked the contents with `tail` to be sure I was getting what was expected which turned out to be good:

```
b18608:MSDS600 worshamn$ tail -1 output.txt
{"created_at":"Thu Aug 27 22:08:10 +0000 2015","id":637023828313567234,"id_str":"637023828313567234
 Figures Animals Assorted http:\/\/t.co\/B7l7flRX6K http:\/\/t.co\/9hnwxVqWEK","source":"\u003ca hr
low\"\u003eIFTTT\u003c\/a\u003e","truncated":false,"in_reply_to_status_id":null,"in_reply_to_status
ull,"in_reply_to_user_id_str":null,"in_reply_to_screen_name":null,"user":{"id":3069037001,"id_str":
al a","screen_name":"faustoarins","location":"","url":null,"description":"highly sensational auctio
e,"followers_count":34,"friends_count":40,"listed_count":12,"favourites_count":0,"statuses_count":4
4 +0000 2015","utc_offset":-25200,"time_zone":"Pacific Time (US & Canada)","geo_enabled":false,"lan
"is_translator":false,"profile_background_color":"C0DEED","profile_background_image_url":"http:\/\/
\/bg.png","profile_background_image_url_https":"https:\/\/abs.twimg.com\/images\/themes\/theme1\/bg
```

I then ran the command for the 3 minutes as required. After the time was up I used `cat` and `wc -l` to see how many lines I had collected which was 9619:

```
b18608:MSDS600 worshamn$ cat output.txt |wc -l
    9619
```

Reference

Wikipedia (n.d.) Retrieved from https://en.wikipedia.org/wiki/0.0.0.0